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ABSTRACT

This study examines the relationship between student mobility and achievement test results in predominately Black and Hispanic Community School District 17, Brooklyn, New York. The project is designed to assess the impact of mobility on pupil achievement and the interpretation of achievement data, as well as to map the pupil population mobility. A second purpose is development of a replicable procedure for mapping in an urban school district. The related literature was reviewed to help define the study. Reading and mathematics scores of 2944 third-, 2997 fourth- and 2877 fifth-grade students, number of moves, and 13 other variables were collected. These data were examined to determine whether year one and year two test results involve the same populations, whether there are differences in the California Achievement Reading Test results and Standardized Diagnostic Mathematics Test results of non-mobile students, and whether there is a relationship among other variables contributing to achievement and test results. The Statistical Package for Social Sciences (SPSS) was used to analyze intra-mobility and outward mobility as independent variables and achievement as the dependent variable. It was found that district schools are not looking at the same population year after year. Therefore the emphasis on test score utilization for instructional planning is invalid. (CM)

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THE IMPACT OF PUPIL MOBILITY ON ASSESSMENT OF ACHIEVEMENT AND ITS IMPLICATIONS FOR PROGRAM PLANNING

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INTRODUCTION

Most school districts in this country plan educational programs assuming that the same children will be in their schools year after year. Test results are interpreted on the same basis. This is not reality. School districts must view the mobility within their districts and revise their means of looking at results as well as revising certain instructional programs. This problem of the impact of mobility on schools and test results is often an ignored variable. To what degree is it the same population of students in a school when comparing year to year test results? What conclusions can be drawn when analyzing the test results without accounting for the mobility factor?

It is not at all unusual for many students - - sometimes half a class - - to enter classes while numerous others leave during the normal school year (Clary, 1981). This situation of course has always been true in areas that serve very transient groups such as military families, but it appears to now also apply to many other populations.

Each year in the United States approximately one-fifth of the population changes places of residence.

One of the consequences of this mobility is that thousands of children face the experiences, inherent in the transference to new schools.

NEED

Once highly mobile children have been identified through an examination of standardized test scores, a district can structure its programs and/or adapt curriculum to meet the needs of their mobile population. Appropriate services for a mobile population can be developed. A knowledge of these mobility patterns in a district is a vital step in a district's educational planning. After having completed the research in this proposal, District 17 will then have the ability to plan its future programs based on the needs of the pupils. Instructional programs, building space allocations, financial planning and personnel planning will all be enhanced by this study.

The district in which this study will be focused wants to assess it's achievement test results properly. In order to determine if the results are meaningful, the district must first ascertain if they are dealing with the same population from year to year. Reports of total results are meaningless if the mobility rate in a given

school is such that only half or less of the school population take the test in that school the year before.

In a study of differences in reading achievement of fifth grade New York City students who have been in the same school since the third grade (non-mobile) and fifth grade pupils who entered the school any time after the third grade (mobile), (Jacob Abranson, 1974) found that the mobile population had a mean score of -1.2 years on the reading test while the non-mobile group had a mean score of -.1 years. That is a difference of 1.1 years with respect to the mean. These results were found to be statistically significant at the .01 level. There was a higher percentage of non-mobile fifth graders reading at or above grade level than mobile fifth graders. Abramson (1975) conducted a follow-up of the non-mobile and mobile groups of the previous study who, through the procedure of National Organizational change,[1] either remained in their elementary schools (non-mobile), or were sent to an intermediate school for the sixth grade (mobile). Reading achievement scores were analyzed for four groups of pupils. The report indicated that sixth grade pupils - both mobile and non-mobile - who remain in their elementary schools are superior in reading achievement when compared with their sixth grade counterparts who attend the intermediate schools. Also re-

[1] Promotion from elementary to intermediate, and then to high school.

ported is that, a higher percentage of sixth grade pupils - both mobile and non-mobile - who remain in their elementary schools, were reading at or above grade norm when compared with those who attend the intermediate school.

SIGNIFICANCE

The issue of mobility and test results is a vital one. The study will ascertain to what extent we are looking at the same population in 1981 that we looked at in 1978, 1979, and 1980. This is extremely important because when the public reads reports on reading scores such as those published annually in the New York Times, quite often they are misled. If a school's reading scores have declined in a given grade from year to year, what conclusions can be drawn? The public is not given information about a changing student population taking the test. If the 1979 fourth grade's mean score was six months below grade level and the 1981's sixth grade mean score was nine months below grade level, what does this mean? Have these children lost three months growth in reading? Or, are we now looking at a student population that is predominantly new in that school? Are we looking at a larger population with limited English proficiency? Is it a more

heavily ESEA Title I impact population?

Study after study (Coleman, 1966; Justman, 1965; Jencks, 1972) indicates that children in poor areas function significantly below middle class children in school subjects, and other studies point to the fact that they have a higher mobility rate than middle class children.

Mobility as a major cause of social fragmentation in America obviously has some sort of impact on the millions of youngsters who find themselves being moved to a new locality each year (Packard, 1975). Yet the impact of mobility on children in not readily predictable.

Some of the differences in achievement test scores among schools may be accounted for by analyzing the mobility factor in the schools. Differences in achievement test scores may also be traced to factors as motivation, test taking skills and attitudes, which may be associated with mobility.

High turnover rates in ghetto schools are an established fact. There is no dispute on that point; only the percentages vary. In Chicago, (Smith, Husbands, and Street, 1969) reported that by the third grade, schools in slums reported that 85% of their pupils had attended more than one school, as contrasted with 53% in middle class neighborhoods. In New York City, (Hendrickson, 1967) re-

ported that over forty schools which had a turnover of 70% and three which had a turnover of 100% were all attended by minority group children who lived in poor areas of the city.

If, as some authors state (Cramer & Dorsey, 1970; Benson, Haycraft, Steyaert and Weigel, 1979; Panagos, 1981), there is a negative relationship between mobility and achievement, then perhaps it is time for various districts where mobility is high to begin to spend an appreciable amount of time and money in keeping up to date records, transmitting and communicating information and providing orientation and assimilation procedures for the mobile student.

A study of teacher attitude toward student mobility found that teachers did have somewhat stereotyped views of students who move (Warner, 1969). This study indicated that each teacher had an average of over three students either enter or withdraw from his class during the period of the study. The teachers tended to view mobile students as comparing unfavorably with their other students in attendance, ability, achievement, and attitude toward school. There was some tendency for classes in larger school districts to have more mobility than those in smaller rural districts. Also, the larger districts

had more internal mobility than did the smaller districts. Historically, the mobile student has been perceived as a problem in the public schools, notably within the areas of academic achievement and social adjustment. Harms (1976) did an analysis of teacher's perceptions of transient and nontransient sixth-grade students. The responses of teachers perception of a difference was statistically significant.

High mobility rate is a factor which must be dealt with every day by educators in poor areas. Since mobility is an important factor in the achievement of children in poor areas, then there should be concerted effort to make this transition as smooth as possible and to provide extra services for those children who move.

PURPOSE OF THE STUDY

This study will examine the relationship between student mobility and achievement test results. Research related to student mobility is considered to be essential if the educational and social needs of these students are to be met.

The project is designed to assess the impact of mobility on pupil achievement and the interpretation of achievement data as well as to map the pupil population mobility of District 17. The differences in achievement test scores among schools may be accounted for by analyzing the mobility factor in the schools.

The study will assess standardized test results with regard to student population and examine mobility patterns in the district. The importance of mobility with respect to interpretation of standard test results will be analyzed.

A second purpose of this study is to develop a replicable procedure for mapping in an urban school district. Mobility impacts on instructional program planning and development very heavily. A vehicle for periodically examining this phenomenon will enable urban school districts to be aware of district mobility patterns and to plan instructional programs to meet the needs of a mobile population.

Many of the students in a mobile population have unique educational needs. They need help in adjusting to a new school environment as well as intensified remediation in an urban inner city school district. Dr. James Comer (1975) stated with regard to problems of a mobile population, "The schools must prioritize their instructional programs to meet the needs of highly mobile student bodies." Special orientation and counseling should be provided. Tests should be administered to insure that these pupils receive proper class placement at the time of their

entrance into the new schools. The manner in which test results are interpreted must be altered so that the mobility factor is included.

The reports published by Boards of Educations dealing with test scores must indicate the percentage of the population that has remained constant (non-mobile) for each school, each grade, each language dominance and for each specialized program. Otherwise, misleading conclusions will be drawn by anyone reading these test results for the schools.

STATEMENT OF THE PROBLEM

The designated problem for this study is to analyze the relationship between student mobility at the elementary level and achievement test scores. How can the impact of student mobility be methodically examined so that educators can determine it's effects on test scores?

District 17 has always been interested in the phenomenon of pupil mobility. An informal survey of District 17 ESEA Title I Reading teachers in 1977 revealed that children who remained in the same school for three or more years scored higher on achievement tests than those children in the program for a shorter span of time. A sampling of students who have moved into the district reveals that their

achievement level in basic skills is lower than the mean score in the district for their grade. Seventy-one percent of the students entering District 17 from other school districts or countries are in need of remediation and/or bilingual/ESL services.

A mobile population has unique educational needs.

RESEARCH QUESTIONS

These questions are to determine if there is a significant relationship between mobility and achievement. It will be necessary to measure pupil mobility, pupil achievement in reading and pupil achievement in mathematics. The study will explore the following questions:

1. Interpretation of test results - Year 1 (1981) vs. Year 2 (1982) - Are we dealing with the same populations?
2. Is there a difference in the California Achievement Reading test results of non-mobile students?
3. Is there a difference in the Standardized Diagnostic Mathematics test results of non-mobile students?
4. Is there a relationship between (or amongst) other variables that contribute to student achievement and test results?

DEFINITION OF TERMS

Pupil Mobility: Is any official transfer in or out of a school.

Non-mobile Group #1: Means that a child has remained in the same school up to the time of the collection of test resluts for this study.

Mobile Group #2: Means that a child has attended two schools up to the sixth grade.

Mobile Group #3: Means that a child has attended three or more schools up to the sixth grade.

Mobile Group #4: Means that a child has attended four or more schools up to the sixth grade.

Achievement: Is defined in terms of grade equivalent scores on the California Achievement Reading test and the Standardized Diagnostic Mathematics Achievement Test.

DESIGN OF STUDY

Community School District #17, located in Brooklyn, New York in the area known as Crown Heights, is typical of many inner city schools. It has a large Black population and the recent influx of a large non-English speaking population is presenting another set of issues for the district to address.

The numbers of these students are significant to the study because they contribute to the inward flow of students into District #17 as well as their mobility within the district.

In essence, this mobility is the basis for this investigative study which asks, "Does student mobility effect reading and mathematic test scores?"

The commencement of data collection entailed the scrutiny of each 3rd, 4th, and 5th grade students' cumulative record folder containing; reading and math scores, and other pertinent information which were dully recorded by a data collector who visited each school.

With collection of data completed, the Statistical Package for Social Sciences was utilized for computer analysis.[3] The analysis examined district intra-mobility and outward mobility for the district. Mobility is the independent variable and achievement is the dependent variable. Other variables were given due consideration.

[3] Note on attempts to utilize Microcomputer and Jimsam, with levels of success achieved.

MICROCOMPUTER AND JINSAM

In the initial stage of gathering data that related to the mobility study, the district utilized a micro computer to make a data base as a vehicle for analyzing aggregated data. The JINSAM 8.0 is a data base system that takes full advantage of Commodore CBM 8050 disk drive micro computer. This electronic filing system allowed the manipulation and organization of student files so that one could retrieve, add and delete information by typing a word or number into the computer.

This system has the versatility to automatically tie in mathematical, statistical and wordprocessing capabilities. The Statpack allowed statistical analysis of selected samples and random samples, which generated histograms and produced descriptive statistics. A problem arose when it was discovered that the JINSAM program could only give us a partial statistical analysis that related to an individual school and grade level. Much of our data base information exceeded the capacity of a single data base disk. We utilized MINI-statistical analysis that were generated, such as crosstabs, analysis of variance and mutiple regression as indicators that these statistical methods would provide us with the answers to our four basic research questions.

Another problem at the district level is that the fluctuation in power sometimes caused a field to lose its contents as it is written to the disk. The empty field causes the

system to close files and stop. Due to time constraints and the limitation of the equipment (hinks and kinks) it became necessary to utilize a Main Frame with the SPSS (Statistical Package for the Social Science) Program. Our MINI-Statistical reports produced at the district level were beneficial in saving time since it was not necessary to go through trial and error procedures before deciding upon the usage of the SPSS program.

The district will continue to examine, adapt, adopt and utilize micro computers wherever possible and feasible in all areas of district level educational research, instruction and administration.

SETTING

District 17 is an appropriate place to conduct this kind of study because of the district's high mobility rate (49.4%), large non-English speaking population and high percentage of ESEA Title I eligible students.

Research needs to be done to allow these schools to plan for the educational needs of their constantly increasing and changing student populations.

Community School District 17, has portions of the district that are also located in Bedford-Styvesant and East Flatbush. The school district contains a large number of families dependent on public assistance. There is, however, a substancial working class community. The district also encompasses a large, ultra-orthodox Lubovitch Jewish community whose children do not attend the public schools.

Housing patterns range from large, mostly older apartment houses to small one and two family homes. The northern end of the district has numerous burned out and abandoned buildings while the southern end features many one and two family houses on well-lit and well-kept streets. Unemployment runs high throughout the district.

Almost 9,000 out of the 23,500 students on register in the district are eligible for ESEA Title I services in reading, math, early childhood and English as a Second Language. Many other children who are less than one year below grade level in reading and math receive remedial instruction in their regular tax levy classrooms.

SUBJECTS

District 17 contains an 85% black population; this population consists of Afro-Americans, Afro-Caribbeans and Afro-Hispanics. Many of these students are from immigrant families. The balance of the district is composed of 12% Hispanics, 2.0% Asians and 0.5% whites.

There has been a north to south migration pattern in the district in recent years. This is a movement by families for better housing, safer neighborhoods and supposedly better schools. Some families have bought one and two family homes in the southern part of the district. The migration pattern is continuous, the higher income families are then moving south or east and leaving the district in their search for a better life.

There is a large non-English speaking population in the district. These families, genreally large in composition, are moving into the district from Puerto Rico, Central America, Haiti, the West Indies and the Orient. The children of these families generally have limited English proficiency upon their arrival in the United States. Their enrollment into District 17's schools necessitated the creation of extensive bilingual and English as a Second Language programs in the district.

A significant Asian influx has occurred in one elementary school (P.S. 249) at the western end of the district. This non-English population contributes greatly to the inter-district and intra-district mobility rate. A sampling of students who have moved into the district revealed that their achievement level in basic skills is lower than the mean score in the district for their grade.

The schools at the northern end of the district are experiencing outward mobility. The nieghborhood surrounding these schools is deteriorating and housing is becoming scarce and/or inadequate.[2] Enrollment is declining at these schools. The few entering children are well below the district's mean reading and mathematic scores. Schools at the southern end of the district extremely overcrowded. These schools are experiencing intra-district and inter-district mobility. The samplings for this study are 2,944 third graders, 2,997 fourth graders, and 2,827 fifth graders.

DATA COLLECTION

Cumulative records were used to garner initial data on mobility and reading/mathematic achievement. The data collector went into each elementary school in the district

[2] Pattern now changing again in renovated housing stock. "Movement" from poorer districts to the north.

in order to record data for this study. All principals were informed about the mobility study at the first principal's conference September 1981. The principals were alerted so that all pertinent records were made available as well as a suitable place for the data collector to work.

All test scores were obtained from the green test card in the cumulative record folder. The data collector took the record cans from one class at a time and recorded the data on the proper forms. The information regarding schools attended and past attendance records were collected from the tan personal and educational data card in the cumulative record folder in the same manner as the test scores.

DATA ANALYSIS

In this analysis, mobility was examined to determine its relationship to student achievement. Grades three, four, and five records of the pupils were examined to reveal the number of school moves and reading/mathematic scores. Achievement is the dependent variable and mobility is the independent variable.

There were fifteen variables examined in the study:

Variable Name

1. SCHOOL = school - PS 91, PS 92, PS 138, PS 161, PS 167, PS 181, PS 191, PS 221, PS 241, PS 249, PS 289, PS 316, PS 397, PS 398, PS 399.

2. GRADE = grade in school - 3 = 3rd grade
   4 = 4th grade
   5 = 5th grade

3. IDNUM = identification number assigned to student: (punch in five digit identification number assigned).

4. DOB = date of birth

5. SCHATT = number of schools attended since kindergarten:
   1 = one school attended
   2 = two schools attended
   3 = three schools attended
   4 = four or more schools attended

6. ADMIT = location of previous school prior to admission to current school:
   0 = started in current school
   1 = came from other district 17 school
   2 = came from other NYC school
   3 = came from school outside NYC
   4 = came from school outside USA

7. DISCH = location of school student enrolled in if left current school:
   0 = still enrolled in current school
   1 = enrolled in other district 17 school
   2 = enrolled in other NYC school
   3 = enrolled in school outside NYC
   4 = enrolled in school outside USA

8. LEP = English Proficiency: 0 = English proficient
   1 = Not English proficient

9. FUNDPROG = funded program: 0 = not a funded program
   1 = is a funded program
   2 = is a Gates program

9. ATTEND = attendance 1980-81: 1 = 0-20 days absent
   2 = 21-40 days absent
   3 = 41-60 days absent
   4 = more than 60 days absent

11. DISCIP = discipline : 0 = no discipline problems
   1 = discipline problems exist

12. READ 81 = 1981 reading score

13. READ 82 = 1982 reading score

14. MATH 81 = 1981 math score

15. MATH 82 = 1982 math score

The Statistical Package for the Social Sciences, was utilized to perform an analysis of covariance which is a form of analysis of variance that tests the significance of the differences between means of final experimental data by taking into account the correlation between the dependent variable and one or more covariates e.g. discipline, funded programs.

REVIEW OF RELATED LITERATURE

This section is presented in three parts. They are mobility, New York City mobility, and mobility and achievement in the school system. The first section on mobility is broken down into subsections. The first subsection is a general introduction to the subject in relation to standard studies dealing mostly with children. The second subsection discusses mobility and the various adjustments that mobile students must make.

The section on New York City School's is mainly concerned with the relationship of mobility on the student population in impoverished areas. It also identifies the major types of mobility effecting inner city (urban area) students.

The last section, on mobility and achievement in the school system, reviews the controversy regarding whether there is a negative relationship between student mobility and mathematic/reading test scores or whether mobility has no effect on academic achievement of students.

INTERPRETATION OF TEST

The argument against the use of standardized tests revolves, for the most part, around a consideration of HOW THE TESTS ARE USED. Specifically, the controversy centers on how the lower scores of certain students are interpreted and translated into school practices. Many teachers and school administrators use standardized tests to group students by ability. Research suggests that ability grouping influences teacher expectations and becomes a self-fulfilling prophecy.

A National Education Association study (1980) found that the majority of schools use scores from group standardized achievement tests at the building level for diagnosing individual student learning needs (87 percent) and evaluating the curriculum (75 percent). A significant number use the scores for tracking or grouping students (43).

The most common external reference group measures are national norms. For all systems, nonhistorical interpretation is the most common; within this category noncomparative interpretation is the most frequently reported. That is, most central office administrators simply use test scores as a static snapshot of parts of their school system. In the urban district comparison with an external reference group national norms is the most common means of interpretation.

Among the uses of tests in schools that research listed were these: grouping pupils within a class for instructional purposes, assigning pupils to classrooms, placing new pupils, identifying pupils who need special diagnostic study and remedial instruction, helping a pupil to set educational and vocational goals, evaluated the curricula and school efficiency and providing information for parents, community and outside agencies.

In todays terms, test scores are used to place mobile pupils and decide which students will receive com pensatory education under Title I and state programs.

The manner in which test results are interpreted must be altered so that the mobility factor is included. The reports published by Board of Educations dealing with test scores must indicate the percentage of the population that remained constant (non-mobile) for each school, each language dominance and for each specialized program. Otherwise, misleading conclusions will be drawn by anyone reading these test results. The results are meaningless if the mobility rate in a given school is such that only half or less of the school population took the test in that school the year before.

If a school's reading scores have declined in a given grade from year to year, what conclusions can be drawn? The public is not given information about a changing student population taking the test

Mobility

Mobility of families from one school attendance area to another is an accepted part of modern life (U.S. Census Population Reports, 1980). The influence of the mobility on school achievement has been the focus of several studies. Yet findings concerning its effects upon school achievement have so far been inconsistent. According to (Bourke and Naylor, 1971) in an early review of the literature found that eleven previous studies reported no effect of mobility on academic achievement while twelve studies found lower achievement; and five studies found higher achievement associated with pupil change of schools. More recent studies noted similar inconsistencies. Goebel (1975) ascertained that rate of mobility was not a significant factor in determining either short-or-long term academic performance. Three other studies (Abramson, 1974, 1975 and Schaller, 1976) all reported that mobile students had lower academic performance.

Mobility and Pupil Adjustment

Researchers have also studied the relationship between mobility and classroom adjustment. Benson, (1979) found a negative association between mobility and classroom adjustment as measured by teacher ratings of sixth graders. Looking at military service families (Wooster and Harris, 1972) indicated that for adolescent boys a higher rate of movement was associated with a reduced ability to judge both self and others. Children moving two or more times had more diffi-

culties relating to their school peers was reported by (Schaller, 1975).

The student must adjust to new teachers, curricula, peer groups and instructional methodologies. The peer group may be especially critical during the junior high years. Secondary students peer relationships were the most important aspect of schooling (Rollins, 1968). In a recent study pupils stated that being liked and accepted were crucial to their adjustment in their school environment (Hamachek, 1980). Therefore, when a student changes to a different school, he/she is not only faced with adjusting to a new instructional program, but also with having to adjust to an entirely new peer group.

In another study of Elementary students using questionnaires it was revealed that their highest priority was in making friends and being accepted (Potts, 1976). Teachers were particulary attuned to behavior problems which appeared in the classroom. Parents, while conscious of some of these problems, were less concerned/attuned to their childrens behavior problems in relation to moving and changing schools. This particular school system, having a knowledge of the large mobility in the student body, made a few if any provisions to deal with this very pervasive characteristic of the school population.

The academic structure received in a consistent edu-

cational environment will successfully transmit the skills students need for a step-by-step approach to a foundation required for academic success (De Nomme, 1981). Students who are subject to several educational settings for the first few years of their formal educational exposure are more likely than others to display characteristics of students having specific learning disabilities and classroom adjustment (Well, 1981). Interruptions and variations with different materials, different teachers (personalities), and unfamiliar teaching techniques (even though they may be superior) can negatively influence a mobile student more than than a non-mobile child.

Most students new to a school, regardless of their past achievement and social development, have some difficulties adjusting to a new system. These adjustment difficulties (Panagos, 1981) are compounded when the new student has not been adequately equipped with the necessary academic and/or behavioral prerequisites. According to (Pinkney, 1976) urban educational systems are not adequately educating their children. Thus, when children from other areas relocate their chances for a successful transition and assimilation into an urban system are decreased.

Researcher (Owen, 1971) concluded in his study that students who attend a school with a high rate of mobility do not necessarily have less positive attitudes toward

teachers, toward the school's educational program, and educational values than do students who attend a school with a low rate of mobility; nor do male or female students show significant differences in attitudes on the above measures. On the other hand, high mobile students show attitudes toward the school's educational program which are less positive than those of non-mobile students.

Mobility has a negative association with a student's adjustment in the classroom. This result is consistent with findings reported in the literature and seems reasonable when the many kinds of adjustments are considered.

New York City School Mobility

New York is a restless city, especially for families with young children. Movement in and out of the city is only part of the continuous flow of people within the city. Households with children under six years old were most apt to have moved (24.5%). Across ethnic groups, it was Hispanic households that were most likely to have changed residence in the prior year. The same patterns of movement were shown nationally (Current Housing Reports, 1978).

In a study of the mobility patterns of public schools (Hendrickson, 1967) characterized his sample in relation to good, average, and poor housing (U. S. Census). He found that people living in poor housing moved more frequently

than those in other types of housing. This was statistically significant at the .01% level.

One can ask, " Why do families in poor areas move if there is only a limited choice? " When (Okraku, 1968) asked the Hispanic population in four housing categories why they moved, the answers fell into four basic groups; better housing or neighborhood, economic reasons such as change of job, personal reasons such as wishing to be closer to relatives, and other. The " other " reason often highlights the personality of the mover, for some of the reasons given were: conflicts with landlords or neighbors, demolished housing, and the splitting up of a family (one-parent family).

In a current study (Koren, 1978) found that families moved when their stage of life is one in which their housing needs are changing and complaints stemming from these changes arise. School mobility data (N.Y.C. Bureau of Attendance, 1977-78) shows that the New York City School System had a net net loss of 8,400 students. This loss was made up of 51,221 departures and 42,821 arrivals. While the greatest proportion of the departures was to the suburbs (30.5%) the number had actually declined by (21.6%) since 1972-73. There was, during this period, a sizeable movement back from the suburbs into the City. While 15,600 children left the schools for suburbs, 6,700 others arrived from the suburbs (Survey, 1978).

Overall, the turnover of the New York City public school

population due to in-and-out migration slowed between 1972-73 and 1977-78. This decrease was evident at both the junior high and high school levels and can be attributed to both a smaller number of children leaving as well as a decline in the number of children entering these schools from outside New York City. Elementary schools however, showed an increase in overall migration rate which was due to an increase in incoming students. In 1977-78, the migration rate for elementary schools was two-thirds greater than that of high schools, with the rate for junior high schools falling in between (Demographic Analysis, 1977).

In-migration

There was a net in-migration of students from outside the United States (N.Y.C. Bureau of Attendance, 1972-73). There was a net increase of 4,332 students from the West Indies in 1977-78, although the volume of traffic between New York City and the West Indies was only about half of its 1972-73 level. The largest gain of students (7,583) was from " other foreign " (non-European) countries. Over 11,00 of these students entered the New York City System in 19[illegible]-78, making up more than 25% of all admissions from outside the city (up from 15.8% in 19[illegible]-[illegible]). This report from the (New York City Bureau of Attendance) does not further breakdown the students by place of origin.

Information on in-and-out migration patterns at the district level is no longer available, data for 1974-75, illustrates that the families of children admitted to the New York City public system from certain locations outside the United States tend to settle in the same districts (Pupil Mobility, 1974-75). For example, more than one out of four children coming from the West Indies enrolled in schools in either District #6, in Manhattan (Inwood-Washington Heights) or #17, in Brooklyn (Crown Heights-Flatbush).

Intra-city migration

The magnitude of mobility becomes clear as one looks at the movement of school children within the city. During the 1977-78 school year, there were 99,864, student transfers (multiple transfers) among the New York City public elementary and junior high schools, equivalent to 14.1% of the students enrolled. Of these, 18,335 (18.4%) were transfers between boroughs and 81,529, or 81,6%, were intra-borough transfers (i.e., changes to another school in the same borough).

Analysis of the 81,529 intra-borough transfers during 1977-78 shows that the majority (55.8%) were moves to a school in a different district. While all districts experienced both transfers in and transfers out, several striking patterns emerged (Net effect of intra-city transfers,

New York City, 1977-78). For example, the four school districts that comprise the South Bronx (#7, #8, #9, and #12) had a net loss of 1,935 students to the North Bronx. The Northern part of Brooklyn (composed of District #13, #14, #15, #16, #23, and #32) had a net loss of 2,167 students to the Southern and Western parts of the borough. District #17 (Crown Heights, population for this study is in the center borough, had the greatest number of intra-borough transfers (5,956), but showed a net increase of only 92 students. The transitional nature of this district is clearly shown by the fact that it had a net inflow of 735 students from Northern Brooklyn and a net outflow of 633 students to the Southern Brooklyn districts.

In general, families moved for easier family living, more security, and better schools. They fled from poor housing areas, many of which are plagued by arson and wholesale abandonments (Housing and Vacancy Survey, 1978).

Mobility and Achievement in the School System

Most educators today maintain that " there is a negative relationship between the number of times a child has been uprooted from school and his reading achievement (Cramer and Dorsey, 1970, p.387). " Others such as (Green and Daughtery, 1961; Frazier, 1970; and Goebel, 1973) state that, mobility has no effect on academic achievement of students.

Out of twenty articles and theses, cited in recent research, sixteen indicated no significant difference between the groups or slightly higher scores for mobile pupils while nine reported differences in favor of the non-mobile pupils. From a quantitative point of view it appears that those who found no significant difference between the groups hold a clear edge. However, much of the confusion in results comes about when all populations of students are mixed together. When mobile students are placed in seperate categories a different pattern emerges.

Military Population

There are populations which are very mobile and they invite research in this area. The migrant farm population has attracted some attention, but the research that is conducted often presumed that their particular problems lead, in part, to their excessive mobility rather than the other way around. The question of mobility, as it relates to achievement, is much more appropriate if a population is used which is more like the average population in all respects except mobility. Such a population exists within the military.

Based on the number of schools attended (from one to six or more, Cramer and Dorsey, 1970) found that for military students there was no significant difference between

the groups on the various subtests of the California Achievement Test. A perusal of the results shows that, although there was no statistically significant difference, there was a difference of eight months between the non-mobile children and the children who attended 3,4, or 5 schools on the vocabulary subtests, in favor of the mobile students. Since no standard deviations are given it is difficult to tell whether this is a result of a few high or low scores in either group (Cramer and Dorsey) comment on this, stating that although the commonly held opinion is that mobility has an adverse effect, " for children of enlisted Air Force personnel, mobility may contribute to reading proficiency (p. 390). "

There can be no doubt that servicemen world-wide perceive the inherent mobility of a military career as a great source of potential danger to their children's education. In a carefully controlled project (Mackay and Spicer, 1975) obtained information from more than 20,000 service families who made up an estimated 69 per cent of Australian service families with dependent children. This study found that, taking the population of servicemen's children as a total group, there was no evidence that mobility produced any consistent or lasting effects of either a beneficial or harmful kind on any of the aspects, including attainment in various curricular areas. In another recent Defense Fellowship

study (Blane, 1979) examined the problems of British military families and produced the same broad general conclusions.

Elementary School Students

Studies on elementary school children appear to concentrate on the fourth, fifth and, especially, sixth grade. The results are almost evenly balanced between pros and cons.

In some school districts, 20% to 30% of the children enrolling each year are new to the school (Holland, 1974). The effect of mobility on school achievement and adjustment are not clearly understood. Concerning achievement (Levine, 1966) found that for inner-city children, low grades were associated with high mobility. Yet others have suggested that mobility and achievement are not related (Morris, Pestaner and Nelson, 1967). Whalen and Fried (1973) determined that there was no significant difference between high and low miblity students in a general vocabulary test. Still other findings indicate a positive relationship between mobility and achievement. Gillialand (1958) ascertained that highly mobile students were more academically successful than less mobile students. Greene and Daughterty (1961) indicated a neutral to positive relationship between mobility and achievement.

On the basis of this conflicting data, a recent study

was conducted, (Benson, Haycraft, Steyaert and Weigel, 1979) to examine the relationship between Mobility, achievement, adjustment, and socialeconomic status (SES). The school records of 1,00" sixth grade students were examined for the above variables. Pearson product moment correlations and Spearman rank order correlations were employed to determine the relationship among these variables. Results indicated mobility to be inversly related to achievement (p .001), adjustment (p .001), and SES (p .05). The correlational data indicates that mobility was negatively related to all variables. The researchers felt that while all correlations are statistically significant, their practicality is questionable because they account for only 2 ro 9% of the shared variance. This implies that while mobility is a factor in a student's achievement and adjustment, there are potentially many other factors involved.

In contrast to the above findings (Kaplan, 1978) conducted a study to ascertain what influence mobility from one school to another had on students reading achievement scores in grades one through five in selected elementary schools. The students were selected from four groups and the overall reading achievement scores utilized were in ten selected Title I, disadvantaged schools over a five-year period. The approximately 700 sixth grade students involved in the study represented Hispanic, Caucasian, Asian, and Black Ethnic

groups. The results indicated that reading achievement scores of mobile students, in all four ethnic groups as well as the overall group, showed no statistically significant differences from the non-mobile group. It was therefore, concluded that the mobile student did not influence the total reading achievement scores to a significant degree. In general , the mobile students did not show improvement in reading achievement regardless of the number of years in the reading school.

From all of the preceding studies the conclusion reached in this section of the literature appears to be that there is no clear cut evidence that mobility has a negative effect on academic achievement on the student population in the elementary grades.

Poor Urban Areas

Interest in children living in poor urban areas has increased dramatically over the last fifteen years. The hue and cry has basically centered around the relatively poor performance of these children compared with middle class children on standardized tests. Many researchers (Justman, 1965; Coleman, 1966, and Jencks, 1972) agree that not only is there a disparity in the test scores but that " the academic performance between these two groups grows greater as they progress through the grades (Frankel and Forlano, 1967)."

In searching for the reason for this disparity, researchers have investigated a variety of factors. The high mobility of children in poor areas, which has been discussed previously is one of those factors.

Two of these studies took their samples from various poor areas of New York City, both concluding that mobility had a negative effect on reading and I. Q. scores. The non-mobile was found favorable on one of the subtests (Arithmetic application --- Frankel, 1967). In all of the other six sub-tests there was no significant difference. He therefore, concluded that, " mobility did not seem to play a significant role in influencing the academic achievement of culturally disadvantaged students (p. 61). "

In this research of the literature both sides have been represented. One stated that mobility has a negative effect on the achievement of children in school, the other side states that not only is there no significant differences but that, sometimes, the children who move do better in school. This diversity of opinion appears to hold for advantaged pupils as well as disadvantaged. What appears to account for significant differences in favor of the non-mobile population on achievement scores is lack of attention to other factors (Such as I. Q. scores, SES, and other population variables) which might influence the scores. the fact that poorer pupils have lower I. Q. scores, lower achievement

scores, and moves more as compared with middle class pupils may not mean that this is a cause and effect chain but rather that these variables occur together and are influenced by seperate factors.

Mobility, as mentioned previously, can be used to explain positive change as well as social disorganization. If used in a general sense it can be true that " high mobility is accompanied by truancy, run-away children, vagrancy and crimes of all kinds (Owen, 1971), or the conclusion that it can strengthen achievement (Snipes, 1966) and lead to more positive adjustment (Schaefer and Aarson, 1969). What appears to be a more reasonable view is that mobility is a complicated process which has many variables and that the social interaction of the individual mover is of greater importance and validity than the movement.

Many poor urban families have positive cultural values. They also have strengths which are constantly overlooked and ignored by those in power. As (Jencks, 1972) points out, equality of educational opportunity and attainment does not automatically bring equality of social and economic status. With conditions in compulsory ghettos (and society) as difficult as they are for the urban poor, the question is not, " Why don't they do better?, but, " How do they function as well as they do? "

In relation to children's functioning in school the neg-

ative test results are overly stressed and though this is, and should be, a concern, it is a fact that a great many children score at or above average levels even on tests which are either inappropriate or have serious weaknesses. This fact is often overlooked by the reporting of mean scores which as (Fisher, 1967) states, " always obscures the great variability within any given sample (p. 237)."

All school districts use standardized tests as the basis for student ability grouping. Educational program decisions should not be based solely on standardized tests. Inadequate, assessment can have a tremendous impact on the lives of students, causing improper educational placement, restricting educational acess and limiting opportunities. Unfortunately, many assessment instruments (test) are culture specific and value based, and have significant economic implications for minorities and those of lower socio-economic status. Many assessment instruments reflect middle class values and attitudes rather than linguistic, cognitive and cultural experiences common to all students.

A more healthy and positive attitude would be to stop thinking of the urban poor as one big formless mass and begin to realize that there are individual factors and forces in the subgroup itself which are available and capable of achieveing the socially acceptable goals of the majority (Fisher, 1967). In another research (Havighurst, 1966) concluded that individual exceptions and variability within the groups makes generalizations risky as individual predictors. The point is also made that even with more positive correlations, the information is not translatable into educational strategies.

Geographic Mobility

Geographic mobility is a complex phenomenon. People move from home to home for a wide variety of reasons. On one hand it can denote sucess. For example, promotion within middle-class occupation is often accompanied by geographic mobility. In some situations, moving one's home can be forced

upon the individual by the break-up of a family or simply being unable to pay the rent. Reasons for mobility will, therefore, go a long way in explaining the sort of effect it has on the achievement of the child.

The relationship between geographic mobility and educational achievement is revealed as a complex problem, inadequately researched and only partly understood. The direct effect of mobility is likely to be small and be itself affected by the social context and reasons for mobility. It appears to be dangerous to generalize and review of the literature which points to a need for a carefully designed longitudinal study in this area. In his study (Schaller, 1976) clearly supports the prediction that geographic mobility and academic achievement depend on additional variables which relate to family structure.

Children who move around also are seriously disadvantaged (Lacey, 1978). Their educational experience can become repetitive and boring and cause them to leave out large sections of important work. The implication drawn from this statement is that educational achievement of geographically mobile children would be severly inpaired, and it was further implied that solid research evidence existed to substantiate his claim.

Unfortunately, like so much research in education, many of the studies are poorly designed, and it is possible to

select studies that support or reject the notion that mobility affects educational achievement as well as choosing the direction of the effect. This point was illustrated by (Bourke and Naylor, 1971), who reviewed 28 studies in which many related variables had apparently been controlled. They found conflicting results for the effects of mobility on achievement.

One Parent Mobile Students

Clearly, the patterns of American family life are changing, and if current trends continue, two-parent families will actually be in the minority within a few generations. Figures released by the (Bureau of the Census, 1980) show that the number of families maintained by only one parent rose nearly 80 per cent in the last decade -- from 11 per cent of all families in 1970 to 19 per cent in 1979. Among Black families, the statistics are even more striking: fully half of Black families with children at home are maintained by one parent. Nearly half of the children born in the U.S. in 1980, will live : a considerable time : with only one parent. Many of them will have special academic and behavior problems. What are the implications for education?

Students living with one parent or with no natural parents move from school to school more frequently than do children living with two parents (Brown, 1980). The achieve-

ment test scores and grades of children being reared in mobile families tend to be lower than those of children living in non-mobile families. Family circumstances are changing so rapidly from the traditional non-mobile situation to the phenomenon of mobile family, that the spector of lower performances by increasing numbers of students hovers over the schools (Phi Delta Kappan, 1980). No one can say to what extent lower pupil performance results from mobility -- selection factors are obviously at work here -- but educators are discovering that serious discipline problems often characterize children of mobile families.

One-parent families tend to move more often than do families with two parents. In elementary school, the ratio is two to one. With income suddenly reduced, the family may find it necessary to move to another, less expensive neighborhood. In its report (Bureau of Census, 1980) stated that the children of divorced parents are most likely to be of elementary school age.

One-parent children, on the whole, show lower achievement in school than do their two-parent classmates. The findings of (NASEP, 1980) confirmed that as a group, one-parent children show lower achievement in school than do their two-parent classmates. The findings of (NASEP, 1980) confirmed that as a group, one-parent children show lower achievement and present more discipline problems than do their two-parent peers

in both elementary and high school. From this study one can say that there is a definite correlation between school performance and family status.

In summary the review of the literature discussed the various kinds of mobility that effect mobile students. Some researchers conclude that mobility has a negative association with students adjustment in the classroom. These findings are consistent with stereotypical notions that identify urban areas, like New York City, which reflect high student mobility and low achievement.

Typical of New York City mobility, is the movement of students within its own school system, intra-migration and a very visible in-migration as children move into the New York City school system in increasing numbers from outside the U.S.A. In general, families moved for easier family living, more security, and better schools.

Research on the military student population and the elementary school students presents the more positive concensus that there is no evidence that mobility has damaging effects on achievement.

In the discussion on poor urban areas, geographic mobility and one parent mobile students, the contention is that there are other variables that prompt a more negative conception on the relationship of mobility and achievement.

The following section will provide the details of the

PRESENTATION AND ANALYSIS OF THE DATA

The purpose of this section is to detail the results of the research. The research is concerned with mobility of students and the interpretation of test scores. Part of the analysis presents data regarding the effect of mobility on a child's achievement in Reading and Mathematics. Another segment identifies the achievement of non-mobile students with achievement of moderate to highly mobile student achievement. The results will be reported in relation to the four research questions.

Data analysis, statistics were generated using subprogram frequencies for the third, fourth and fifth grade students in order to gain a general statistical picture of the subject groups involved in the project.

In order to gain information regarding the central tendencies of the dependent and independent variables under investigation, that is mobility and reading/mathematics scores, subprogram BREAKDOWN (crosstabs, ANOVA, Multiple Regression) were used to answer the following research questions.

Research Questions

Question 1. Interpretation of test results - year 1 (1981) vs year 2 (1982) - Are we dealing with the same populations?

Results: 1. Many of the elementary schools in district #17 are often dealing with a new population from year to year. The district has constant inter and intra mobility. Over half of the students have attended two schools and a small percentage have attended three or four schools.

Cross-tabulation were performed (see table 1, 2, and 3) showing the percentage of mobility in each of the sixteen elementary schools in district #17. The cross-tabs contained the mobility frequency number value in each school. To arrive at the percentage of mobility the first percentage in each school's column of moderate and high mobility were added together. Since high mobility group number 4 had a small number of students attending four or more schools, their percentages were not included in the total for each school's percentage.

If a school had less than nine percent which is equivalent to twenty-five percent it was considered non-mobile. A moderately mobile school was identified if it had a percentage between nine and fifteen percent which is equivalent to twenty six and seventy four percent. The highly mobile schools had percentages between fifteen and thirty percent which is equivalent to seventy-five to one hundred percent. From this information three grade maps of the district were prepared identifying the schools that are non-mobile, moderately mobile, and highly mobile. The maps (figures 1 and 2) show that more than 20% of the schools have less than twenty-five percent of their students changing schools. About an equal number have more than seventy-five percent of their students changing schools. The largest group (more than fifty percent depending on grade level) have from twenty-six percent to seventy-four percent of the students changing schools. Thus, most of the schools in the district have at least seventy percent of their students moving during a school year and a few have as many as twenty-six percent to one hundred percent of their students coming in or going out during the year.

Crosstabulation 3rd Grade

Table I

CROSSTABS-THIRD GRADE

CROSSTABULATION OF ... CROSSTABULATION OF ...

...ATT MOBILITY OF STUDENTS BY SCHOOL SCHOOL ATTENDED

	SCHOOL	PS 91	PS 92	PS 138	PS 141	PS 147	PS 181	PS 189	PS 191	PS 221	PS 241	PS 249	PS 289	PS 316	PS 397	PS 398	PS 399	ROW TOTAL
	COUNT																	
	ROW PCT																	
	COL PCT																	
	TOT PCT	91.1	92.1	138.1	141.1	147.1	181.1	189.1	191.1	221.1	241.1	249.1	289.1	316.1	397.1	398.1	399.1	
	1.	114	98	85	92	88	139	48	27	70	59	71	65	84	38	61	0	1159
		9.8	8.5	7.3	7.9	7.6	12.0	5.9	2.3	6.0	5.1	6.1	5.6	7.2	3.3	5.3	0	44.7
MOBILE		53.9	40.5	58.6	49.7	50.0	54.7	55.3	31.4	56.5	37.3	34.1	45.5	47.2	32.2	37.0	0	
		4.4	3.8	3.3	3.6	3.4	5.4	2.6	1.0	2.7	2.3	2.7	2.5	3.2	1.5	2.4	0	
	2.	80	107	34	75	65	94	53	43	40	86	109	57	76	68	82	52	1121
		7.1	9.5	3.0	6.7	5.8	8.4	4.7	3.8	3.6	7.7	9.7	5.1	6.8	6.1	7.3	4.6	43.3
RATE MOBILITY		37.2	44.2	23.4	40.5	34.9	37.0	43.1	50.0	32.3	54.4	52.4	39.9	42.7	57.6	48.2	74.3	
		3.1	4.1	1.3	2.9	2.5	3.6	2.0	1.7	1.5	3.3	4.2	2.2	2.9	2.6	3.2	2.0	
	3.	15	26	17	18	19	18	2	10	10	11	22	17	14	9	16	15	239
		6.3	10.9	7.1	7.5	7.9	7.5	.8	4.2	4.2	4.6	9.2	7.1	5.9	3.8	6.7	6.3	9.2
		7.0	10.7	11.7	9.7	10.8	7.1	1.6	11.6	8.1	7.0	10.6	11.9	7.9	7.6	9.7	21.4	
		.6	1.0	.7	.7	.7	.7	.1	.4	.4	.4	.8	.7	.5	.3	.6	.6	
	4.	6	11	9	0	4	3	0	6	4	2	6	4	4	3	6	3	71
		8.5	15.5	12.7	0	5.6	4.2	0	8.5	5.6	2.8	8.5	5.6	5.6	4.2	8.5	4.2	2.7
MOBILITY		2.8	4.5	6.2	0	2.3	1.2	0	7.0	3.2	1.3	2.9	2.8	2.2	2.5	3.6	4.3	
		.2	.4	.3	0	.2	.1	0	.2	.2	.1	.2	.2	.2	.1	.2	.1	
	COLUMN TOTAL	213	242	145	185	176	254	123	86	124	158	208	143	178	118	165	70	2590
		8.3	9.3	5.6	7.1	6.8	9.8	4.7	3.3	4.8	6.1	8.0	5.5	6.9	4.6	6.4	2.7	100.0

54

13 20 10 14 13 16 6 8 8 12 19 12 12 10 14 10

55

Crosstabulation 4th Grade

Table II

CROSSTABS-FOURTH GRADE

CROSSTABULATION OF SCHATT MOBILITY OF STUDENTS BY SCHOOL SCHOOL ATTENDED

CROSSTABULATION OF

SCHATT		SCHOOL																	
	COUNT / ROW PCT / COL PCT / TOT PCT	IPS 91	PS 92	PS 138	PS 161	PS 167	PS 181	PS 189	PS 191	PS 221	PS 241	IPS 249	PS 289	PS 316	PS 397	PS 398	PS 399	R TO
		91.1	92.1	138.1	161.1	167.1	181.1	189.1	191.1	221.1	241.1	249.1	289.1	316.1	397.1	398.1	399.1	
1. NOT MOBILE		93	74	61	84	59	125	65	34	79	58	33	78	77	39	47	2	1
		9.2	7.3	6.1	8.3	5.9	12.4	6.4	3.4	7.8	5.8	3.3	7.7	7.6	3.9	4.7	.2	3
		44.8	32.2	42.4	39.6	45.7	41.5	59.1	35.8	47.3	35.8	18.8	52.0	42.8	41.9	24.7	2.7	
		3.6	2.8	2.3	3.2	2.3	4.8	2.5	1.3	3.0	2.2	1.3	3.0	2.9	1.5	1.8	.1	
2. MODERATE MOBILITY		94	110	58	103	47	135	41	37	65	77	101	47	77	35	109	52	1
		7.9	9.3	4.9	8.7	4.0	11.4	3.5	3.1	5.5	6.5	8.5	4.0	6.5	2.9	9.2	4.4	4
		45.4	47.8	40.3	48.6	36.4	44.9	37.3	38.9	38.9	47.5	59.4	31.3	42.8	37.6	57.4	69.3	
		3.6	4.2	2.2	3.9	1.8	5.2	1.6	1.4	2.5	2.9	3.9	1.8	2.9	1.3	4.2	2.0	
3.		19	31	11	19	13	31	4	20	18	20	34	20	21	15	24	16	
		5.8	9.5	4.3	5.8	5.2	9.5	1.2	6.2	5.5	6.2	10.5	6.2	6.5	4.6	8.0	4.9	1
		9.1	13.5	9.7	9.0	13.2	10.3	3.6	21.1	10.8	12.3	20.0	13.3	11.7	16.1	13.7	21.3	
		.7	1.2	.5	.7	.6	1.2	.2	.8	.7	.8	1.3	.8	.8	.6	1.0	.6	
4. HIGH MOBILITY		3	15	11	6	6	10	0	4	5	7	2	5	5	4	8	5	
		3.1	15.6	11.5	6.3	6.3	10.4	0	4.2	5.2	7.3	2.1	5.2	5.2	4.2	8.3	5.2	
		1.4	6.5	7.6	2.8	4.7	3.3	0	4.2	3.0	4.3	1.2	3.3	2.8	4.3	4.2	6.7	
		.1	.6	.4	.2	.2	.4	0	.2	.2	.3	.1	.2	.2	.2	.3	.2	
COLUMN TOTAL		209	230	144	212	129	301	110	95	167	162	176	150	180	93	190	75	2
		8.0	8.8	5.5	8.1	4.9	11.5	4.2	3.6	6.4	6.2	6.5	5.7	6.9	3.6	7.3	2.9	10

H H N H N H

14 19 92 14 92 21 5 93 11 13 19 10 13 8 17 93

Crosstabulation 5th Grade

Table III

CROSSTABULATION OF

CHATT MOBILITY OF STUDENTS BY SCHOOL SCHOOL ATTENDED

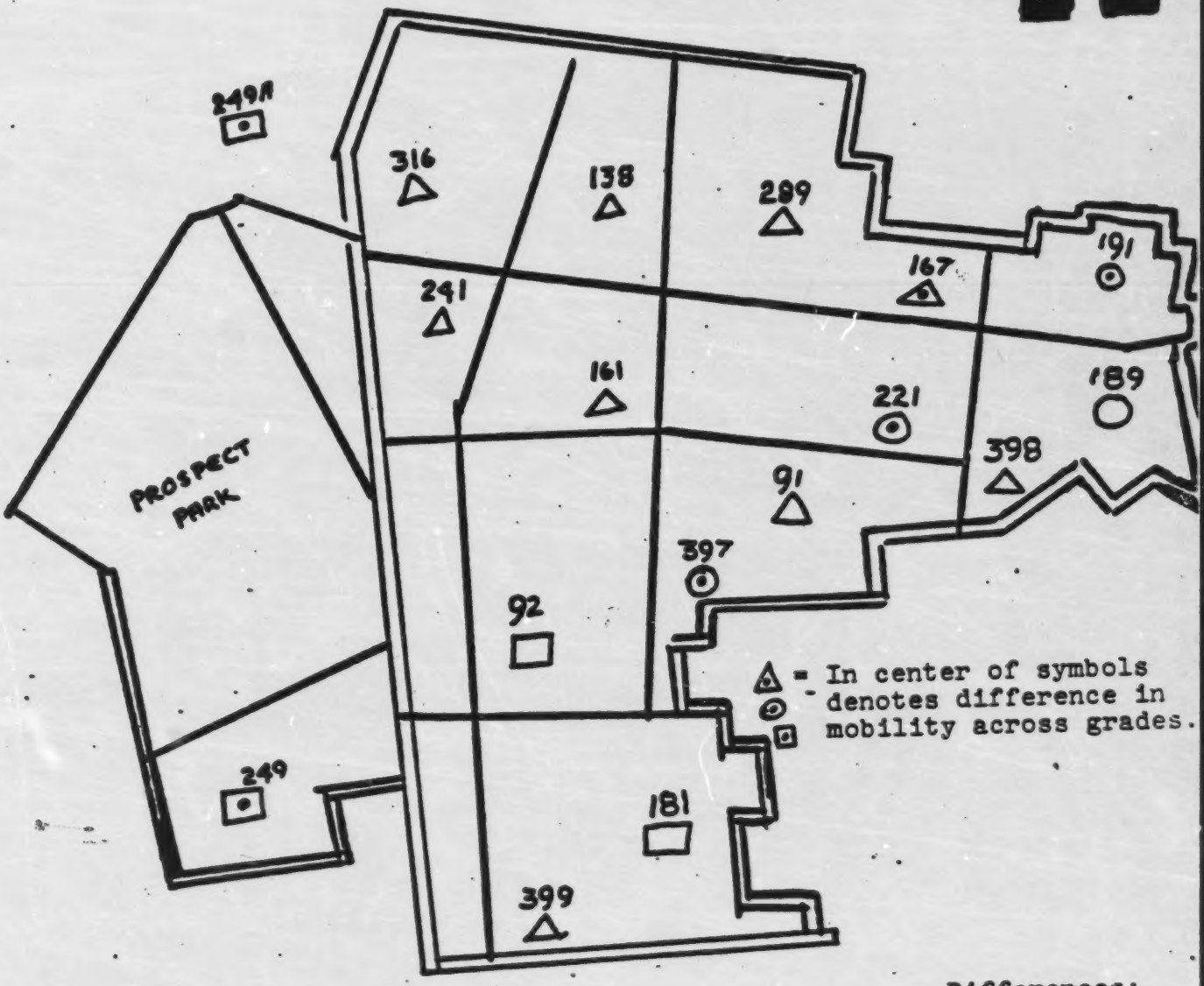
	SCHOOL											SCHOOL						
COUNT / ROW PCT / COL PCT / TOT PCT	PS 91	PS 92	PS 138	PS 161	PS 167	PS 181	PS 189	PS 191	PS 221	PS 241	PS 249	PS 289	PS 316	PS 397	PS 398	PS 399	ROW TOTAL
1.	138	49	65	78	50	144	44	26	95	76	26	59	46	35	7	0	938
MOBILE	14.7	5.2	6.9	8.3	5.3	15.4	4.7	2.8	10.1	8.1	2.8	6.3	4.9	3.7	.7	0	33.2
	44.5	21.2	39.9	34.4	23.3	41.6	33.6	24.3	45.2	36.4	12.4	42.4	32.6	40.7	7.2	0	
	4.9	1.7	2.3	2.8	1.8	5.1	1.6	.9	3.4	2.7	.9	2.1	1.6	1.2	.2	0	
2.	100	121	43	77	69	106	43	30	56	74	91	50	55	30	64	1	1030
RATE MOBILITY	9.7	11.7	4.2	7.5	6.7	10.3	4.1	2.9	5.4	7.2	8.8	4.9	5.3	2.9	6.2	.1	36.5
	32.3	52.4	26.4	33.9	32.1	30.6	48.1	28.8	26.7	35.4	43.5	36.0	39.0	34.9	66.0	100.0	
	3.5	4.3	1.5	2.7	2.4	3.8	2.2	1.1	2.0	2.6	3.2	1.8	1.9	1.1	2.3	.0	
3.	18	31	19	21	34	35	4	16	20	17	36	14	18	18	14	0	317
	5.7	9.8	6.0	6.6	10.7	11.0	1.9	5.0	6.3	5.4	11.4	4.4	5.7	5.7	4.4	0	11.2
	5.8	13.4	11.7	9.3	15.8	10.1	4.6	15.0	9.5	8.1	17.2	10.1	12.8	20.9	14.4	0	
	.6	1.1	.7	.7	1.2	1.2	.2	.6	.7	.6	1.3	.5	.6	.6	.5	0	
4.	7	11	8	13	13	10	2	7	6	9	13	4	7	1	2	0	113
MOBILITY	6.2	9.7	7.1	11.5	11.5	8.8	1.8	6.2	5.3	8.0	11.5	3.5	6.2	.9	1.8	0	4.0
	2.3	4.8	4.9	5.7	6.0	2.9	1.5	6.5	2.9	4.3	6.2	2.9	5.0	1.2	2.1	0	
	.2	.4	.3	.5	.5	.4	.1	.2	.2	.3	.5	.1	.2	.0	.1	0	
9.	47	19	28	38	49	51	16	28	33	33	43	12	15	2	10	0	424
	11.1	4.5	6.6	9.0	11.6	12.0	3.8	6.6	7.8	7.8	10.1	2.8	3.5	.5	2.4	0	15.0
	15.2	8.2	17.2	16.7	22.8	14.7	12.2	26.2	15.7	15.8	20.6	8.6	10.6	2.3	10.3	0	
	1.7	.7	1.0	1.3	1.7	1.8	.6	1.0	1.2	1.2	1.5	.4	.5	.1	.4	0	
COLUMN TOTAL	310	231	163	227	215	346	131	107	210	209	209	139	141	86	97	1	2822
	11.0	8.2	5.8	8.0	7.6	12.3	4.6	3.8	7.4	7.4	7.4	4.9	5.0	3.0	3.4	.0	100.0

SUMMARY MOBILITY MAP

DISTRICT 17

ELEMENTARY SCHOOLS

FIGURE 1



KEY

○ = Non-mobile 1-9 = 25%
△ = Moderately mobile 9-15% = 26 - 74%
▭ = Highly mobile 15-30% = 75-100%

Differences:

P.S. 167 - 5th grade High
P.S. 191 - 3rd grade mobi
P.S. 221 - 3rd grade non-
P.S. 397 - 3rd grade mod.

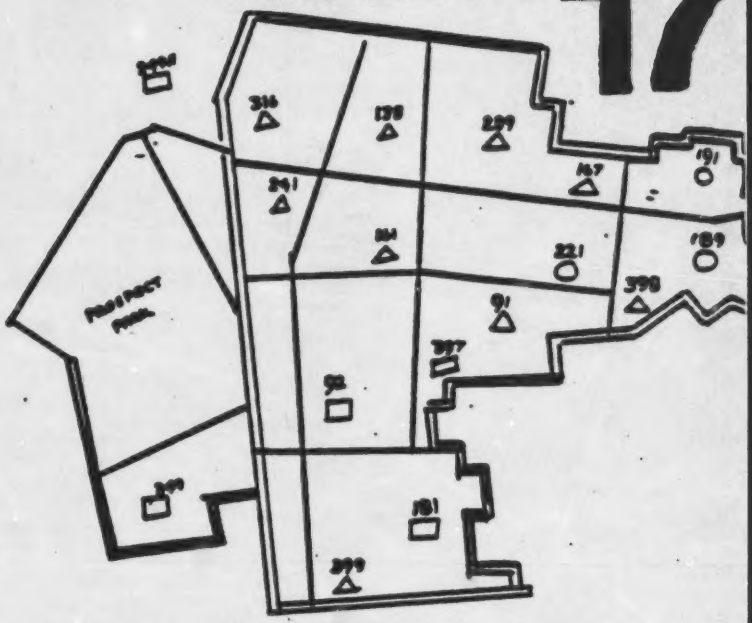
ELEMENTARY

SCHOOLS

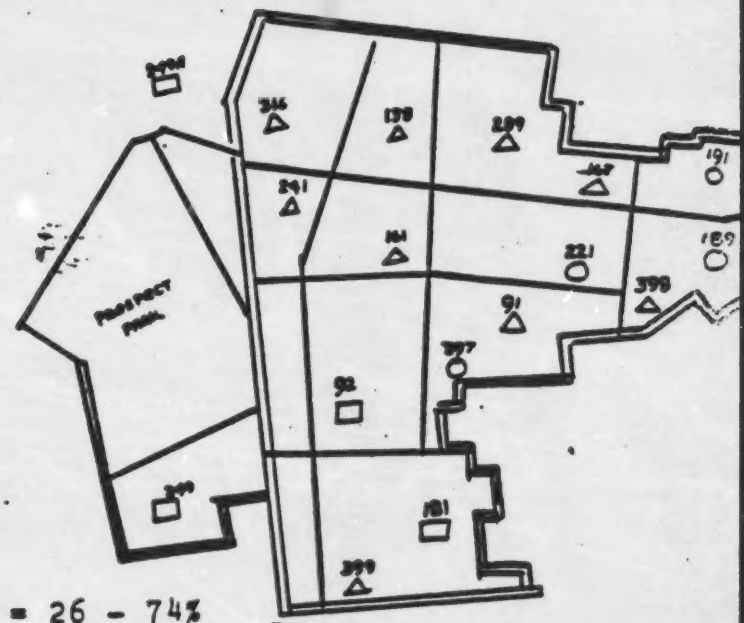
THREE GRADE MAPS

DISTRICT 17

3rd grade



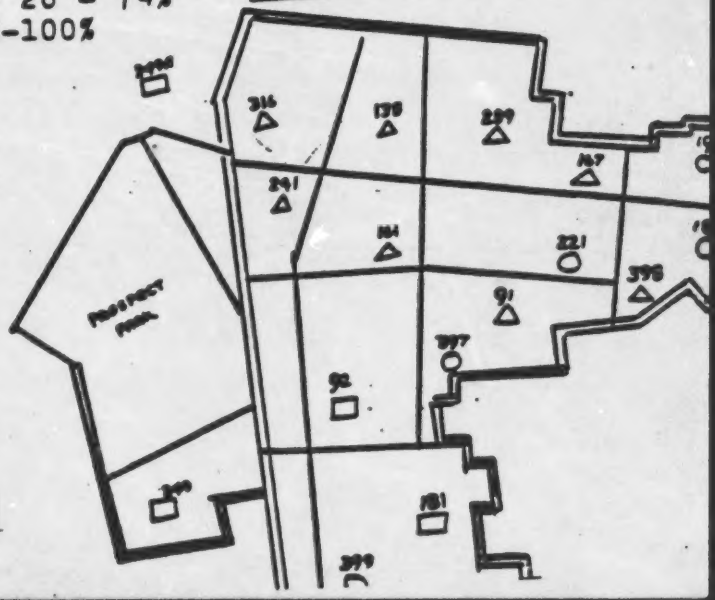
4th grade



KEY

○ = Non-mobile 1-9 = 25%
△ = Moderately mobile 9-15% = 26 - 74%
▭ = Highly mobile 15-30% = 75-100%

5th grade



DISTRICT 17 ETHNIC-COMPOSITION

Ethnic mobility patterns appear to be related to ethnic background. More research is needed before any conclusions can be drawn regarding ethnic background as the predictor of mobility. However, the ethnic specificity of predicting mobility is a factor that can not be ignored.

Many researchers have concluded that while achievement motivation may in some cases be associated with mobility, it can also be associated with a conflict in the home environment.

An ethnic composition table #4, was prepared to show the percentage of Hispanic, Black and White student that are represented in Community School District #17 in grades, three four, and five. The large percentage of Black students (55 to 93%) can be misleading if it assumed that these are Afro-American students. The ethnic surveys taken do not further breakdown the difference between Afro-Americans and Afro-Caribbeans (Jamican, Haitian, etc...) With thorough ethnic information the schools could then prepare ethnic instructional educational programs for the students.

The ethnic table gives us a look at the Socio-Economic Status of the district population based on the number of students that are receiving free lunches. All but one school

in the district are serving from 46 to 89% of their students with free lunches.

This research study can only relate to this ethnic population and since it is predominately black it should not be assumed that all urban black districts would have the same findings.

It might be tempting to conclude from the findings that while mobility affects the academic performance of one ethnic group, it does not affect the academic performance of children from another ethnic group. Such a conclusion, nevertheless is not justified on the basis of the other evidence in the literature.

TABLE 4

Third, Fourth, and Fifth Grade Pupils Representing Community School District #17, School Year 1981-82

No. of Schools	No. of Pupils 3rd gr.	4th gr.	5th gr.	% Non-mobile	Ethnic Composition Hispanic	Non-Hispanic Black	White	% of Pupils on Free Lunch
# 91	215	209	310	47.3	7%	90%	3%	57.0
# 92	242	231	230	31.3	14%	82%	4%	64.5
# 138	145	144	163	46.9	9%	89%	4%	82.6
# 161	185	212	227	41.3	10%	90%	0	54.6
# 167	176	129	215	39.8	19%	79%	2%	61.8
# 181	254	301	346	45.9	10%	87%	3%	46.1
# 191	123	95	107	49.3	7%	93%	0%	89.7
# 221	124	167	210	49.6	8%	92%	0%	64.6
# 241	158	162	209	36.5	7%	93%	0%	53.3
# 249	208	170	209	21.9	27%	55%	Asia 18%	71.5
# 289	143	150	139	46.6	3%	97%	0%	71.9
# 316	178	180	141	40.8	11%	87%	Asia 2%	72.8
# 397	118	93	86	38.2	7%	89%	4%	54.9
# 398	165	190	97	22.9	7%	91%	2%	56.5
# 399	70	75	1	0	10%	86%	4%	New Scho

TABLE 4 * Continued*

Third, Fourth, and Fifth Grade Pupils Representing Community

School District #17, School Year 1981-82

No. of Schools	% of Pupils L.E.P.	% of Pupils Funded Program	% of Pupils Discharged	% of Pupils absent 20 days or more
# 91	03	34	16	33
# 92	07	57	08	43
# 138	0	48	06	75
# 161	06	48	03	35
# 167	04	50	08	40
# 181	05	36	03	33
# 191	11	84	11	52
# 221	01	61	12	33
# 241	03	50	09	35
# 249	28	66	13	43
# 289	0	57	25	47
# 316	04	47	08	53
# 397	0	0	08	23
# 398	87	13	13	38
# 399	New	0	0	New 0

* L.E.P. - Limited English Proficiency

Question 2. Is there a difference in the California Achievement Reading test results of non-mobile and mobile students?

Results: 2. Non-mobile students in group #1 who have remained in the same school, score higher on the Reading test than the mobile groups in #2, 3, and 4.

Question 3. Is there a difference in the Standardized Diagnostic Mathematics test results of non-mobile and mobile students?

Results: 3. Non-mobile students in group #1 who have remained in the same school, score higher on the Mathematic test than the mobile groups in #2, 3, and 4.

Tables 5,6,7,8,9, and 10 provided the mean grade equivalent reading and mathematics scores for each group of mobility for the three grades analyzed. The numbers and percentages of students in the mobility groups are also recorded in these tables.

An average of 33 to 40% of missing cases is typical of all the data presented in this study. This resulted from students who failed to take one or both of the standardized tests. A part of this problem is due to the mo-

bility of the students. Although, the number of students lost because of missing data seems high it is not unusual in studies of this kind. When these scores are adjusted by using Covariance analysis on scores from the previous year, the effect of mobility on adjusted scores is statistically significant.

As the mean scores show there is a consistent decrease in all scores as the number of times a student has moved increased. Although, the non-mobile students score above national norms the more mobile children are below these norms. Increased mobility was associated with poor achievement. Mobility and reading/mathematic scores were examined by the analysis of covariance. Statistical significance was determined by reference to appropriate statistical tables. Significance was attributed to all comparisons that were at the .05 level or below.

There is a negative correlation between achievement in reading/mathematic and the number of times a pupil had changed schools.

TABLE #5

Reading

MEAN GRADE EQUIVALENT SCORES FOR THIRD GRADE

	Number of Students	Percent of Total No.	Reading
Total Group	1803	100%	3.6
Non-mobile Group #1	960	54%	3.8
Mobile Group #2	630	35%	3.6
Mobile Group #3	165	9%	3.3.
Mobile Group #4	48	2%	3.0

TABLE #6

MATHEMATICS

	Number of Students	Percent of Total No.	Mathematics
Total Group	1746	100%	4.2
Non-mobile Group #1	939	54%	4.4
Mobile Group #2	613	35%	4.1
Mobile Group #3	151	2%	3.8
Mobile Group #4	43	9%	3.7

5. Reading Cases - 2944

Missing Cases - 1141 = 38%

6. Math Cases - 2944

Missing Cases - 1198 = 40%

Code:

Non-mobile - Students who attend only 1 school.
Mobile Group #2 - Students who attended 2 schools.
#3 - " " " 3 " .
#4 - " " " 4 " .

TABLE #7

Reading

MEAN GRADE EQUIVALENT SCORES FOR FOURTH GRADE

	Number of Students	Percent of Total No.	Reading
Total Group	1986	100%	5.0
Non-mobile Group #1	879	44%	5.3
Mobile Group #2	778	39%	4.9
Mobile Group #3	253	13%	4.6
Mobile Group #4	76	4%	3.8

TABLE #8

Mathematics

	Number of Students	Percent of Total No.	Mathematics
Total Group	1872	100%	5.1
Non-mobile Group #1	838	45%	5.3
Mobile Group #2	730	39%	5.0
Mobile Group #3	231	12%	4.7
Mobile Group #4	73	4%	4.4

7. Reading Cases - 2997
   Missing Cases - 1011 =33%

8. Math Cases - 2944
   Missing Cases - 1125 = 37%

TABLE #9

Reading

MEAN GRADE EQUIVALENT SCORES FOR FIFTH GRADE ON 1982 TESTS

	Number of Students	Percent of Total No.	Reading
Total Group	1738	100%	6.2
Non-mobile Group #1	752	43%	6.5
Mobile Group #2	659	38%	6.0
Mobile Group #3	244	14%	5.8
Mobile Group #4	83	5%	5.8

TABLE #10

Mathematics

	Number of Students	Percent of Total No.	Mathematics
Total Group	1861	100%	6.2
Non-mobile Group #1	833	45%	6.6
Mobile Group #2	693	37%	6.0
Mobile Group #3	247	13%	5.8
Mobile Group #4	88	5%	5.7

9. Reading Cases - 2827
   Missing Cases - 966 = 34%

10. Math Cases - 2827
    Missing Cases - 966 = 34%

Question 4. Is there a relationship between (or amongst) other variables that contribute to student achievement and test results?

Results: 4. The multiple regression analysis verifies that there is a relationship between five other variables (Funded Programs, Schools, Attendance, Limited English Proficiency and Discipline) that contribute to student achievement and test results.

MULTIPLE REGRESSION

Stepwise multiple regression analysis was used to determine if variables other than mobility account for variation in standard reading and mathematic performance.

The following variables were included in this analysis:

SCHATT = number of schools attended since kindergarten. Mobile groups #1, 2, 3, and 4.

ADMIT = location of previous school prior to admission to current school.

DISC = location of school student enrolled in if left current school. Inter-mobility tracking.

LEP = Limited English Proficiency - 0 = English Proficiency, 1 = Not English Proficiency.

FUNDEDPROG = Funded Program - 0 = not a funded program, 1 = is a funded program, 2 = is a Gates program.

ATTEND = Attendance 1980-81 code identifies the number of days that a student is absent.

DISCIP = Discipline - 0 = no discipline problem.
1 = discipline problems exist.

In these analysis, the previous year scores accounted for most of the variance and were removed first. In all the analysis (each of the three grades on both reading and mathematic scores) four or five other variables did significantly account for additional variation, but their effects were often small. These variables and the percentage of variance accounted for in a stepwise regression when the corresponding variable was added to the analysis, are listed in Tables 11, 12, and 13.

The Funded program variable shows up in every cell except math fourth grade group who have attended four school, in this cell it is not significant. Funded program has it greatest impact at the third grade group #1 27%, group #2 22%, group #3, 17% and group #4 24%, a one-fourth variance is a large effect on this grades reading test scores. The variance drops to 18% non-mobile and 16% mobile, at the fourth grade and it decreases to 3.8% for the non-mobile and 10% for the mobile group at the fifth grade. The Funded program mathematic pattern is the same but not as strong. It is high at the third grade and goes down at the fourth and fifth grade. Since the variance of funded program decreases as the students are promoted to the next grade, the findings show that this variable helps the non-mobile as well as the mobile students.

The next variable that affects reading and math test scores are the schools the students are attending. Ranking of schools by achievement test scores is mandated by the New York City Dencentralization Law which state that "each school shall be ranked in order of the percentage of pupils reading at and above grade level." School attended has the greatest impact 1.25% at the fouth grade non-mobile group. All other group variance fall below this percentage.

The attendance variable reflects the number of days that a student has been absent from school. Absence at the 20 and 40 days absence levels is prompted by the projections of Public Health Officials who estimate that the normal expectance rate for absence due to illness is 10 days per school year. Absence above this figure is considered 'excessive'. This varable has an effect on the test scores of the non-mobile as well as the mobile and it has its greatest effect on students who have attended three schools in both reading and mathematics.

LEP-Limited English Proficiency, has an effect on reading its greatest impact is at the third grade. This variable is not sigificant on mathematic test scores and it has no effect on the non-mobile group in any of the three grades.

Discipline has .51% on the non-mobil group in the fifth grade. It affects the fourth grade students who have attended four schools. It has its greatest impact on how it effects mathematic test scores than on reading test scores.

Multiple regression permits one to draw conclusions about which other variables have impact upon student achievement on test results.

TABLE 11

MULTIPLE REGRESSION ANALYSIS

THIRD GRADE

NON-MOBILE GROUP #1		
READING		MATHEMATICS
FUNDED PROGRAMS	27.45%	16.19%
ATTEND.	.38%	.62%
SCHOOL	.77%	N.S.

MOBILE GROUP #2		
READING		MATHEMATICS
FUNDED PROGRAMS	22.54%	12.10%
L.E.P. ENG. PROF.	1.09%	N.S.
DISCIP.	N.S.	.64%
ATTEND.	N.S.	.63%

MOBILE GROUP #3		
READING		MATHEMATICS
FUNDED PROGRAMS	17.34%	8.01%
L.E.P.	3.13%	N.S.
ATTEND.	2.05%	N.S.

MOBILE GROUP #4		
READING		MATHEMATICS
FUNDED PROGRAMS	24.60%	11.07%

* L.E.P. = Limited English Proficiency

** N.S. = Not Significant

TABLE 12

MULTIPLE REGRESSION ANALYSIS

FOURTH GRADE

NON-MOBILE GROUP #1		
READING		MATHEMATICS
FUNDED PROGRAMS	18.30%	9.51%
SCHOOL	1.25%	2.18%
ATTEND.	.62%	.85%
L.E.P.	N.S.	.71%

MOBILE GROUP #2		
READING		MATHEMATICS
FUNDED PROGRAMS	16.48%	5.39%
L.E.P.	1.53%	.90%
SCHOOL	.65%	.63%

MOBILE GROUP #3		
READING		MATHEMATICS
FUNDED PROGRAMS	16.03%	5.21%
L.E.P.	2.03%	1.85%
ATTEND.	1.20%	3.38%

MOBILE GROUP #4		
READING		MATHEMATICS
FUNDED PROGRAMS	5.15%	N.S.
DISCIP.	1.70%	2.74%

TABLE 13

MULTIPLE REGRESSION ANALYSIS

FIFTH GRADE

NON-MOBILE GROUP #1		
READING		MATHEMATICS
FUNDED PROGRAMS	3.80%	10.22%
SCHOOL	.65%	N.S.
DISCIP.	.51%	1.61%
ATTEND.	N.S.	.83%

MOBILE GROUP #2		
READING		MATHEMATICS
FUNDED PROGRAMS	10.11%	6.42%
ADMIT	1.82%	N.S.
ATTEND.	1.23%	2.88%
SCHOOL	.73%	.54%
DISCIP.	N.S.	.62%

MOBILE GROUP #3		
READING		MATHEMATICS
FUNDED PROGRAMS	9.36%	5.48%
ATTEND.	N.S.	1.55%
L.E.P.	1.29%	N.S.

MOBILE GROUP #4		
READING		MATHEMATICS
FUNDED PROGRAMS	12.50%	4.73%

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This research was concerned with four basic questions: first, the interpretation of test results. Are District 17's schools dealing with the same populations year after year? Two, is there a difference in reading test results of non-mobile and mobile students? Third, is there a difference in mathematic test results of non-mobile and mobile students? And fourth, is there a relationship between other variables that contribute to student achievement and test results?

The cumulative records of 2944, third graders, 2997, foruth graders and 2877, fifth grade stuedent in sixteen elementary schools in Brooklyn, New York, were examined for reading, mathematic scores, number of moves and thirteen other variables (Funded programs, limited English proficiency, attendance, school, etc..)

These pupils were predominately Black and Hispanic. The pupils were sorted into groups. Group one, non-mobile (stable); group two, mobile; group three, moderately mobile; and group four, highly mobile. These four groups were compared in relation to their mean grade equivalent scores on the California achievement reading test and the Standardized

diagnostic mathematics test.

The non-mobile group on all grade levels scored higher than the national norm. The mobile group two scored a little below the non-mobile group. Mobile group three and four scored even further below the non-mobile group. A stepwise Multiple Regression on all grade levels verify that there are other variables that account for variation in standard reading and mathematic test results.

The crosstabulation tables give information about the percentage of non-mobile and mobile population. The map — figures identify which schools have mobility and which schools are non-mobile. The ethnic composition gives additional percentage information that relates to the individual schools in this target population. According to Nuzzo (1982) percentages never tell one anything about individual pupils. They do serve a valid function as broad indicators which make a statement about the entire school or district population.

The findings show that besides mobility (movement) there are deleterious effects on the intellectual and academic development of students which follow directly for pupils presence in a particular class (Soci o- Economic Status). Previous research has shown that there are other factors that relate to measured academic performance, namely S E S and inter-school mobility. It has been found that there

is a negative relationship between S.E.S. and changes in measured ability and achievement.

The statistical treatment for the SPSS (Statistical Program for the Social Science) was crosstabulations for each school according to mobility groupings. The next method was Anova (Analysis of variance) for all four groups on reading and mathematic achievement test scores. The final statistical method was a stepwise Multiple Regression to show the interrelationship of other variables that also have an impact on student acheivement and test results.

This study has examined a number of important factors in the relationship between mobility and educational achievement. It has been revealed as a complex problem, inadequately researched and only partially understood. The conclusion has drawn attention to the danger of the practice which generally ignores the complex interrelationship of social class factors and educational achievement and the confounding variables within the mobility matrix.

This research project does not claim to have solved or even to have explained the results of the complex factors involved in the problem of mobility. It is hoped that it will point future researchers in this field in a more sensible direction of isolating problems associated with

mobility (such as inter-intra mobility of students in public schools.

Not all the findings of this report can safely be generalized beyond the study population. It can be assumed that high mobility does not cause poor academic performance in children. In some segments of the population however, high mobility is associated with poor academic performance.

The basic findings from this study are as follows:

1. In each of the elementary schools in district 17 there are mobile students that need to be identified.
2. Because of population mobility, individualized instruction in any one area of the district should be the concern of people in all parts of the district, and surrounding districts.
3. The non-mobile group in all grade levels scored higher than the mobile group on the reading and mathematic achievement test.
4. Teachers need to be furnished with complete information on new student soon after their arrival, if they are to avoid stereotyping these students and if they are to provide for their education.
5. While moving is harmful for many students as the test scores show, changing schools does have a long term adverse and possibly permanent effects on achievement performance among certain mobile groups.

6. School orientation programs need to be examined and their effectiveness evaluated if schools are to provide adequately for entering mobile students.

Since the students of this study have been assigned identification numbers there would be an advantage to analyzing longitudinally, the existing data source. Individual schools would be able to map their intra- and inter-student mobility, to better prepare the curriculum to meet the educational needs of these students.

The problem of mobility has so many confounding variables that the first step in furthering understanding should be the continuation of this research project. The following research should be designed to examine longitudinal effect of specific aspects of the problem of mobility.

CONCLUSIONS

Based upon the findings and within the limitations of this study, the following conclusions were made:

1. Mobility, which results in school changes, does effect reading and mathematic achievement. Conversely, remaining in one school does result in appreciable gain in achievement over, more mobile pupils. These findings are in agreement with much of the previous research (Kaplan, 1978; Benson, 1979; Kealy, 1981).
   They are in contradiction to some others (Owens, 1971; Goebel, 1975; Mackay and Sicer, 1975).

2. District programs should be planned for mobile students to receive an uninterrupted educational experience. This study indicated that pupil mobility does affect achievement.

3. It appears that mobile students would benefit from some special services. Districts receiving mobile students should develop appropriate guidelines, so that teachers receiving these students will have an alternative to forming an attitude wherein their expectations dictate the child's educational performance.

4. District guidelines for registering students during the year should emphasize an awareness of the students academic strengths and weaknesses as soon as possible. Just waiting for records to arrive can be harmful to the student's academic growth as well as costly to the district through premature appropriations of specialized materials based on pupil expectation instead of on the cause of the deficiency.

5. The sooner the district realizes that the student just needs some gaps filled, the faster the student will obtain success.

6. A great deal of time, money, and effort can be saved

if districts will develop guidelines to search mobile student's educational background to see if other factors are the problem instead of referring, labeling, and establishing an attitude of low expectation and guaranteed student failure.

Micro-computerization of student records is a necessity in identifying urban migartion (mobility) patterns that reflect students and schools with high admissions and discharges. Computer data gathered at each school will illustrate the inter and intra school district mobility.

1. The data based established as a result of this study will be used by the district to continue mobility tracking and test assessment in future years. Mobility trails will be mapped to assist school administrators in the curricular planning (individualization) for those students with greatest mobility. The map will also assist in differentation of courses of study for other students who are up to or near their grade equivalent math and reading scores.

2. This mapping and mobility tracking process will enable district #17 to gain a better understanding of the degree to which mobility affects how the district interprets test scores as well as how to more effectively plan programs to meet the needs of mobile populations.

3. The district's mobility study was designed to find out what types of students are entering or exiting; i.e. flow of ESL or Title I students. The knowledge of what types and volume of students a district or schools within it can expect in the next few years might result in building space reallocation or change in utilization.

4. A district's funded programs office might channel its grant writing program in a specific way as a result of mobility knowledge.

5. Utilization of the micro-computer by the district staff is appreciably sophisticated and therefore applicable to a variety of uses. It is hoped that this project analysis will encourage other school districts to replicate this project.

Recommendations

Based upon the findings and conclusion of the study the following recommendations are made.

1. Even though the present research contributes weight to the studies which concluded that mobility is a small factor in school achievement, it can not be taken as a difinitive answer to the problem. Perhaps there are too many factors involved in the act of moving to be covered in one study. The reasons for moving, family composition, social direction of the move, the difference in quality between schools and neighborhoods, the inner dynamics and the unity of the family are all factors whose influence, individually or collectively, may interact with the act of moving and, thereby, influence achievement.

2. Schools need to review and update student records and identify children from mobile homes in order that guidance counselors and teachers can become more sensitive and responsive to the needs of these children.

3. Schools must revise their calendars to make certain that working and mobile parents have regular access to school personnel and activities after working hours.

4. School services and educational curriculum must undergo revision to better accommodate the newly identified needs of a growing number of children from mobile families.

5. Mobility is a complex varible which should be investigated further.

6. There should be an attempt to initiate a longitudinal study of the effect of controlled changes in the educational environment of selected mobile students.

7. Districts need to pursue more consistent district-wide objectives to provide student transfer information consistent with appropriate class and instructional placement data.

8. Once sending and receiving schools have been identified, community school districts should arrange meetings and begin to pursue a possible inter and intra district adoption of instructional objectives and administrative procedures.

In Summation

It is important to note that whereas the study has concluded, via the research findings, that mobility does in-deed affect the achievement of the District #17 student population, it is not mutually exclusive that this proves much since the populations being compared in two sequeled years are not the same.

This research has proved that District #17 schools are not looking at the same population year after year. Test scores that are aggregately reported yearly, leaves one to suspect this process, especially if one is not considering varying rates of mobility.

The third grade students who fall into the highly mobile group have been to three different schools since starting in the New York City public schools. Therefore, the results lead to the mistaken concept that local school programs do not meet the needs of a mobile population. Progression in grades have affected the progress of students achievement as much as the mobility factor in the findings.

It is misleading to look at achievement data from year to year as an indicator for planning next year's instruction in the subsequent grade assuming that it is the same pop - ulation, when in fact the mobility of the population renders the test scores ineffective for year to year aggregate comparisons. Therefore, the emphasis of test score utilization for instructional program planning, formulation and implementation is invalid. Consider that in a given third grade population, the composition of it changed

as much as seventy five percent by the end of the year. Likewise the test results used in ranking of schools throughout a district (or system wide) is an equally and misleading (for interpretation) usage of test results. These results do not affect all the variables which are inherent in the scores. The rate of the mobility in the schools or districts being compared is not considered as a variable affecting the assessment results.

Unless one controls for the mobility factor in the ranking an incorrect picture of the schoool's or district's capabilities for delivering effective instruction (i.e., achievement and effectiveness of special reading programs, mathematic programs, Funded programs: CH.I, Limited English Proficiency programs, etc.) is formulated by the reader of the data. Without controlling for mobility one in reality is looking at "apples and oranges." The importance of this issue becomes quite evident when one considers how other public officials use this data as benchmarks in judging the effectiveness of educational system or district through the proctive of comparing year to year school and district test data, both through "in house reports and the print media.

When the print media reports the results of city wide annual Reading and Mathematic assessment it allows an interpretation of the data which is not correct and, in actuality, leads to unfair conclusions about individual schools' effectiveness. In fact it allows a school or district to be labeled "academically ineffective" when in reality it is not, this erodes the

support schools need from the citizenery.

Likewise central office "school rankings" are questionable so long as it is assumed that the mobility factor is the same in each school (or apparently insignificant to achievement, which this and other research refutes.) If school "A" is ranked number eight out of all Elementary schools in the city (627) and school "B" is ranked number two hundred and fifty and there is no control for mobility rate then one is given an incorrect picture about the respective academic ability of the schools compared.

School "A" may have a mobility factor of ten percent and "B" may have one of sixty percent. School "B: is constantly starting from ground zero, with no instructional consistency, and unfortunately the "instructional power" of their approach is not correctly reported or represented. The other school, "A", gains from the consistency of instructional placement and strategy. A reality based example of this is a school located in a community that serves (unintentionally) as a historic receiver of immigrant populations (i.e. Flatbush-New Asian Immigrants; Bedford-Stuyvesant/Crown Heights-Haitian immigrants). The immigrant populations located in these areas for socio-cultural and economic reasons. When their economic and socio-cultural transition is effected and strenghtened they move on to better their housing and other socio-environmental conditions.

Not only are the schools judged on an unfair basis but, conclusions are made about the effectiveness of instruction in

the schools through the media (public) that portray one as effective and the other as ineffective. Many parents form conclusions from these reports and unjustly judge a school as being ineffective academically which further erodes the community's much needed confidence and support of the school.

The same conditions prevail when using district aggregated scores to compare effectiveness of one district to another.

Some schools/districts show gains and/or sustained positive results primarily because of the stability of its student population and not so much the "power" of their instructional programs.

In conclusion mobility is a very important intervening variable in pupil achievement that must be controlled for, when a year to year(s) interpretation of achievement progress within a given school population(s) is made. This is especially significant when it is for judgement of school effectiveness or instructional program planning.

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